Patent
Attorney Docket No. 74239

AMENDMENTS TO THE SPECIFICATION:

Please amend the Title as follows:

~~[Surface Imprinting Using Solid Phase Synthesis Products as Templates]~~

Molecularly imprinted surfaces using surface-bound peptides

Please amend paragraph [0011] as follows:

The peptide synthesized on the surface of the support could be a peptide epitope. The polymerization or crosslinking reaction may be conducted with the aid of crosslinking agents, heat, or ultraviolet irradiation. The peptide, oligosaccharide or oligonucleotide may be FMOC-Phe-Gly-Si, H-Phe-Gly-Si, FMOC-Phe-Si, BOC-Gly-Si, H-Gly-Si, FMOC-Phe-Gly-OH, FMOC-Phe-OH, BOC-Phe-OH, H-Phe-pNA, H-Phe-O-Me, H-Phe-OtBu, BOC-Gly-OH, H-Phe-Gly-NH_2, H-Phe-Gly-Gly-Phe-OH (SEQ ID NO:1), FMOC-Phe-OH, H-Gly-Phe-OH, or Nociceptin. The disposable surface activated support may be silane-modified silica or controlled pore glass. The monomer mixture may comprise monomers such as styrene/divinyl benzene, methacrylates, acrylates, acrylamides, methacrylamides or combinations thereof.

Please amend paragraph [0013] as follows:

According to a further embodiment of the present invention, a chromatographic stationary phase is provided which comprises a molecularly imprinted material produced according to the first embodiment of the invention described above, where the peptide, oligosaccharide or oligonucleotide may be one of FMOC-Phe-Gly-Si, H-Phe-Gly-Si, FMOC-Phe-Si, BOC-Gly-Si, H-Gly-Si, FMOC-Phe-Gly-OH, FMOC-Phe-OH, BOC-Phe-OH, H-Phe-pNA, H-Phe-O-Me, H-Phe-OtBu, BOC-Gly-OH, H-Phe-Gly-NH_2, H-Phe-Gly-Gly-Phe-OH (SEQ ID NO:1), FMOC-Phe-OH, and H-Gly-Phe-OH.

Please amend paragraph [0030] as follows:

The polymers were subsequently assessed as stationary phases in chromatography. The dipeptide imprinted materials were focused upon. As seen in FIG. 4A, FMOC-Phe-Gly-OH is about two times more strongly retained on P(FMOC-Phe-Gly-Si) than on P(FMOC-Phe-Si) and about 15 times more strongly on P(FMOC-Phe-Gly-Si) than on P(BOC-Gly-Si). The retention behaviour in aqueous mobile phases is crucial for the application of these phases to biological samples. Water was therefore added to the mobile phase (buffered with 1% HOAc)

in increments of 5%. The retention of different peptides on the dipeptide imprinted materials (P(FMOC-Phe-Gly-Si) and P(H-Phe-Gly-Si)) was compared using the glycine imprinted materials (P(BOC-Gly-Si and P(H-Gly-Si)) as controls. With 5% water a pronounced selectivity for peptides containing the imprinted dipeptide motif is seen (FIGS. 4B, 4C). This also included larger peptides containing the H-Phe-Gly motif as N-terminus. Thus, H-Phe-Gly-Gly-Phe-OH (SEQ ID NO:1) is similarly retained to H-Phe-Gly-NH_2, with a retention factor, k', of almost 6 on P(FMOC-Phe-Gly-Si). Also, the larger, 17 amino acid long, oligopeptide nociceptin that contained the Phe-Gly as amino terminus was selectively retained on P(H-Phe-Gly-Si). Additional strong evidence for the presence of peptide discriminating sites is provided by the retention behaviour of the dipeptide H-Gly-Phe-OH with the inverse amino acid sequence. In contrast to the other dipeptides, this is most strongly retained on the materials imprinted with the nearest complement used in this study, namely H-Gly-Si and BOC-Gly-Si.